

**Kinetics of the Chemical Interaction of Ethylene and Propylene  
with Sulfuric Acid**

76-12-14/27

layer is sufficiently great, the stationary process, which is characterized by the constant of velocity of absorption, takes place after expiration of a certain initial period. The steady velocities with the absorption of ethylene and propylene by the aqueous solutions of sulfuric acid of various concentrations were measured. That measurement was effected at a sulfuric acid concentration of from 85.3 to 97.2 % by weight with the absorption of ethylene and of from 68.0 to 87% by weight of that of propylene. Taking account of the diffusion laws, the equations for the velocities of gas absorption by an immovable liquid are derived here with respect to the above mentioned case. (The absorption is accompanied by a chemical reaction between the liquid and the absorbed gas). The constants of velocity with the chemical interaction of ethylene and propylene with sulfuric acid under various conditions were determined here from the steady speeds of absorption. Both the apparent, and real values, viz. those which take account of the temperature dependence of acidity, for the activation energy and for the multiplicand before the exponential function, were determined. It is shown that the difference in reactivity with ethylene and propylene is caused by the difference of activation energy of the corresponding reactions. It is shown that the real multiplicand before the

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Kinetics of the Chemical Interaction of Ethylene and Propylene  
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exponential equation does not depend on the acid concentration and that it is equal with ethylene and propylene. It is further shown that the lack of a strict proportionality between the constants of velocity and the acidity of the activation energies are dependent on the composition of the acid medium. There are 1 figure, 2 tables, and 14 references, 7 of which are Slavic.

ASSOCIATION: Physical-Chemical Institute Lenin, L.Ya. Karpov, Moscow (Fiziko-khimicheskiy Institut im. L.Ya. Karpova, Moskva)

SUBMITTED: November 15, 1956

AVAILABLE: Library of Congress

Card 3/3

GELSHTEYN, A. N.

USSE/ Miscellaneous - Archeology

Card 1/1 Pub. 77 - 10/23

Authors : Gelshteyn, A. N.

Title : The writing of the Mayas

Periodical : Nauka i Zhizn' 21/10, page 25, Oct 1954

Abstract : A brief account is given of the civilization of the Mayas, with particular reference to the method of writing and the work done in trying to decipher their records, which culminated in success and the production of a dictionary and grammar of the Maya language.

Institution : ...

Submitted : ...

GEL'SHTEYN, A.N.

Water-resistant surfaces. Nauka i zhizn' 23 no.4:51 Ap '56.  
(Waterproofing) (MLRA 9:7)

GEL'SHTEYN, G.G.

Clinical significance of electrocardiography in cardiac surgery.

Khirurgiya, no.1:67-75 Ja '54.

(MIRA 7:5)

1. Is fakul'tetskoy khirurgicheskoy kliniki im. S.I.Spasokukotskogo  
(zavednyushchiy - professor A.N.Bakulev) II Moskovskogo meditsinskogo  
instituta im. I.V.Stalina. (Electrocardiography) (Heart--Surgery)

GEL'SHTEYN, G.G.

Postoperative care of patients following surgery in mitral insufficiency. Khirurgiia, no.9:37-43 S '55. (MLRA 9:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - deystvitel'nyy chlen AN SSSR prof. A.M. Bakulev) II Moskovskogo meditsinskogo instituta imeni IV Stalina i khirurgicheskogo otdeleniia 1-y gorodskoy bol'nitsy imeni N.I. Pirogova (glavnyy vrach--zasluzhennyy vrach respubliki L.D. Chernyshev)

(POSTOPERATIVE CARE, in various dis.  
mitral insuff.)

(MITRAL VALVE, dis.  
insuff., postop. care)

SMIREMSKAYA, Ye.M. (Moskva, Zh-4, ul. Vorontsovskaya, d.2/10, kv.18);  
GEL'SHTBYN, G.G.

On the problem of fibrillation. Nov.khir.arkh. no.5:91-95 S-O '57.  
(MIRA 10:12)

1. Institut grudnoy khirurgii AMN SSSR.  
(HEART--DISEASES)





GEL'SHTEYN, G.G. (Moskva, Leninskiy prosp., d.8. kv.18)

Electrocardiographic changes in patients with diseases of the  
heart during cavapulmonary anastomosis. Grud.khir.l. no.2:  
52-57 Mr.-Ap '59. (MIRA 16:7)

1. Iz Instituta grudnoy khirurgii AMN SSSR.  
(ELECTROCARDIOGRAPHY) (HEART--DISEASES)  
(PULMONARY ARTERY--SURGERY) (VENA CAVA--SURGERY)

OKL'SHTEYN, G.G. (Moskva, Leninskiy prospekt, 8, kv. 18); FITILEVA, L.M.

Some auscultative and phonocardiographic data in mitral stenosis.  
Grud.khir. 1 no.1:31-41 Ja-P '59. (MIRA 13:6)

1. Iz laboratorii elektrokardiografii i fonokardiografii Instituta grudnoy khirurgii ANU SSSR (dir. - prof. A.A. Basalov, nauchnyy rukovoditel' - akad. A.N. Bakulev).  
(MITRAL VALVE—DISEASES)

BAKULEV, A.N., akademik; SMIRENSKAYA, Ye.M. (Moskva, Baltiyskiy per.,  
d.3/25, kv.27); GEL'SHTEYN, G.G.; ARKHANGEL'SKAYA, N.V.

Message of the heart under clinical conditions. Grud. khir. 1  
nc.4:6-14 J1-Ag '59. (MIRA 15:3)

1. Iz Instituta grudnoy khirurgii AMN SSSR (dir. - prof.  
A.A. Busalov, nauchnyy rukovoditel' - akademik A.N. Bakulev).  
(CARDIAC MASSAGE)  
(CHEST—SURGERY)

AKULINICHEV, I.T.; BABSKIY, Ye.B.; GEL'SHTEYN, G.G.; PETROV, G.M.; SKACHKOVA, A.I.;  
UTSY, N.I.; USHAKOV, V.B.

Electronic modeling of the electric activity of the heart. Biofizika,  
4 no.3:354-360 '59. (MIRA 12:7)

1. Nauchno-issledovatel'skiy institut schetnogo mashinostroyeniya,  
Institut grudnoy khirurgii ANU SSSR, Moskva i Institut normal'noy i  
patologicheskoy fiziologii ANU SSSR, Moskva.

(ELECTROCARDIOGRAPHY,  
electronic model of electric activity of heart (Rus))

~~XXXXXXXXXXXXXXXXXXXX~~  
OML'SHTEYN, G.G.; IVANITSKAYA, I.N.

Importance of dynamocardiography for the diagnosis of mitral stenosis.  
Vrach.delo no.5:477-483 My '59. (MIRA 12:12)

1. Institut grudnoy khirurgii AMN SSSR (direktor - akademik A.N.  
Bakulev).  
(CARDIOGRAPHY) (MITRAL VALVE--DISEASES)

AKULINICHEV, I.T.; BABSKIY, Ye.B.; GEL'SHTEYN, G.G.; PETROV, G.M.;  
SKACHKOVA, A.I.; UTEY, N.I.; USHAKOV, V.B.

Reproduction of the electrocardiogram by an electronic model system.  
Biofizika 4 no.5:589-594 '59. (MIRA 14:6)

1. Iz otdela elektromodelirovaniya Nauchno-issledovatel'skogo  
instituta schetnogo mashinostroyeniya, Instituta grudnoy khirurgii  
AMN SSSR i laboratorii klinicheskoy fiziologii Instituta normal'noy  
i patologicheskoy fiziologii AMN SSSR, Moskva.  
(ELECTROCARDIOGRAPHY)

AKULINICHEV, I.T.; BABSKIY, Ye.B.; GEL'SHTEYN, G.G.; LAKUNIN, N.B.;  
MOSKALENKO, G.V.; PETROV, G.M.; USHAKOV, V.B.

~~Cardiography~~ Biofizika 4 no. 4:490-495 '59. (MIRA 14:4)

1. Nauchno-issledovatel'skiy institut schetnogo mashinostroyeniya,  
Institut grudnoy Khirurgii AMN SSSR i Institut normal'noy i  
patologicheskoy fiziologii AMN SSSR. Moskva.  
(ELECTROCARDIOGRAPHY)

GEL'SHTEYN, G.G.; FITILEVA, L.M. (Moscow)

Some auscultative and phonocardiographic data in mitral stenosis.  
Terap.arkh. 31 no.4:55-62 Ap '59. (MIRA 14:5)

1. Iz laboratorii elektrokardiografii Instituta grudnoy khirurgii  
AMN SSSR (dir. - akademik A.N.Bakulev).  
(MITRAL VALVE—DISEASES) (HEART—SOUNDS)



GEL'SHTEN, G.G.; KOGAN, B.M. (Moskva)

Changes in the electrocardiogram in patients with mitral stenosis during the late postoperative period. Klin.med. 37 no.8:61-67 Ag '59. (MIRA 12:11)

1. Iz laboratorii elektrokardiografii Instituta grudnoy khirurgii AMN SSSR (dir. - prof.A.A.Busalov)  
(COMMISSUROTOMY, physiology)  
(ELECTROCARDIOGRAPHY)

GEL'SHTEIN, G.G.; YESIPOVA, I.K.; IVANITSKAYA, M.A.; KYANDARYAN, K.A.;  
SAVEL'YEV, V.S.; SOBOLEVA, A.D.

Congenital defect in the development of the tricuspid valve  
(Ebstein's disease). Klin. med. 38 no. 2:129-136 F '60.

(MIRA 14:1)

(TRICUSPID VALVE---ABNORMALITIES AND DEFORMITIES)

GEL'SHTEIN, G.G.; IVANITSKAYA, M.A.; LAGUTINA, A.I.; SAVEL'YEV, V.S.;  
SOBOLEVA, A.D.; FROLOVA, L.P.

Rare congenital heart defect -- cor triloculare viatriatum. Klin.  
med. 38 no.6:129-135 Js '60. (MIRA 13:12)  
(HEART--ABNORMITIES AND DEFORMITIES)

BURAKOVSKIY, V.I.; MURAV'YEV, M.V.; GEL'SHTEYN, G.G.; YEVTEYEV, Yu.V.;  
LAGUTINA, A.I.; ROMASHOV, P.N.; RYABOV, G.A.; ROGLAVLEVA, N.G.;  
TERENT'YEVA, L.M.; SHPUGA, O.G.

Operation on the "dry " heart during hypothermia in patients  
with congenital heart defects. Grud.khir. no.3:3-14 '61.

(MIRA 14:9)

1. Iz otdeleniya zabolevaniya serdtsa i sosudov u detey (zav. -  
kand.med.nauk V.I. Burakovskiy) Instituta grudnoy khirurgii  
(dir. - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akad.  
A.N. Bakulev) AMN SSSR. Adres avtorov: Moskva, Leningradskiy  
prosp., d.8. Institut grudnoy khirurgii AMN SSSR.

(HEART—ABNORMITIES AND DEFORMITIES) (HYPOTHERMIA)  
(PERFUSION PUMP (HEART))

SOBOLEVA, A.D.; GEL'SHTEYN, G.G.; KFITILEVA, L.M.

Arteriovenous aneurysm of the right branch of the pulmonary artery  
arising as a result of congenital heart defect - sinistral  
division of the cardiac bulb. Arkh. pat. 23 no. 1:78-81 '61.

(MIRA 14:1)

(HEART—ABNORMITIES AND DEFORMITIES) (FISTULA)  
(PULMONARY ARTERY—ABNORMITIES AND DEFORMITIES)

GEL'SHTEYN, G.G.; KOVANEV, V.A.; SEROV, V.V. (Moskva)

Electrocardiographic changes in experimental glomerulonephritis.  
Pat. fiziol. i eksp. terap. 5 no.6:39-43 N-D '61. (MIRA 15:4)

1. Iz kafedry patologicheskoy anatomii 1-go Moskovskogo ordena Lenina  
meditsinskogo instituta imeni I.M.Sechenova (zav. - chlen-korrespondent  
AMN SSSR prof. A.I.Strukov) i Instituta grudnoy khirurgii AMN SSSR.  
(ELECTROCARDIOGRAPHY) (KIDNEYS---DISEASES)

KOLESHIKOV, S.A., prof.; BURAKOVSKIY, V.I.; GEL'SHTEYN, G.G.; MEYTINA,  
R.A.; BUKHARIN, V.A.; KLAMMER, M.Ye.

Deep hypothermia in heart surgery. Khirurgiia no.9:10-18 '62.  
(MIRA 15:10)

1. Iz Instituta serdechno-sosudistoy. khirurgii (dir. prof.  
S.A.Kolesnikov, nauchnyy rukovoditel' - akdad. A.N.Bakulev) AMN  
SSSR.

(HYPOTHERMIA) (HEART--SURGERY)

KOLESNIKOV, S. A.; RYABOV, G. A.; GELSHTEYN, G. G.; LAGUTINA, A. I.; KOLESNIKOVA, N. I.;  
KISS, S. Ya. (Moscow)

"L'insuffisance respiratoire aigue et son traite apres les interventions  
cardiovasculaires effectuees en circulation extracorporelle."

report submitted for 13th French Cong on Anesthesiology, Bordeaux, 31 May-3 Jun 63.



GEL'SHTEYN, G.G.; MEYTINA, R.A.

Tasks of functional diagnosis in cardiac surgery. Trudy Inst.  
klin. i eksper. kard. AN Gruz. SSR 8-657-662 '63. (XIRA 17:7)

1. Laboratoriya funktsional'noy diagnostiki Instituta serdечно-  
сосудистой хирургии, АМН СССР, Москва.

BURAKOVSKIY, V.I.; BUKHARIN, V.A.; GEL'SHTEYN, G.G.; KNYAZEVA, G.D.;  
LEBEDEVA, G.K.; MEYTINA, R.A.; SHALYKOVA, O.P.

Cardioplegia in surgery with artificial blood circulation.  
Grud. khir. 5 no.2:26-35 Mr-Apr'63 (MIRA 7 12)

1. Iz Instituta serdechno-sosudistoy khirurgii (direktor -  
prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N.  
Bakulev) AMN SSSR. Adres avtorov: Moskva V-49, Leninskiy  
prosp. , d.8, Institut serdechno-sosudistoy khirurgii AMN SSSR.

KOLESNIKOV, S.A.; BURAKOVSKIY, V.I.; GEL'SHTEYN, G.G.; LEBEDEVA, G.K.

Restoration of normal cardiac activity and vascular tonus using  
an artificial blood circulation apparatus. Grudn. khir. 5 no. 4:  
21-24 J1-Ag '63. (MIRA 17:1)

1. Iz Instituta serdechno-sosudistoy khirurgii (dir. - prof.  
S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev)  
AMN SSSR. Adres avtorov: Moskva V-49, Leninskiy prosp., d. 8,  
Institut serdechno-sosudistoy khirurgii AMN SSSR.

BAKULEV, A.N., akademik; KOLESNIKOV, S.A., prof.; BURAKOVSKIY, V.I.;  
GEL'SHTEYN, G.G.; LEBEDEVA, G.K.; MURAV'YEV, M.V.; MEYTING, R.A.

Artificial blood circulation in combination with hypothermia in  
the surgery of congenital heart defects. Vest.khir. 90. no.2:  
10-19 F'63. (MIRA 16:7)

1. Iz Instituta serdechno-sosudistoy khirurgii (dir. - prof.  
S.A.Kolesnikov, nauchnyy rukovoditel' - akademik A.N.Bakulev)  
AMN SSSR. Adres avtorov: Moskva, V-49, Leninskiy pr., d.8,  
Institut serdechno-sosudistoy khirurgii AMN SSSR.  
(HEART—SURGERY) (HYPOTHERMIA)  
(BLOOD—CIRCULATION, ARTIFICIAL)

GEL'SHTEYN, G.G.; MEYTINA, R.A.; LEBEDEVA, G.K.

Changes in respiration and cardiac activity in patients with congenital heart defects during operations under artificial blood circulation with moderate hypothermia. Khirurgia no.10:67-74 '64.

(MIRA 18:8)

1. Laboratoriya funktsional'noy diagnostiki (zav. - kand.med.nauk G.G.Gel'shteyn) i otdeleniye vrozhdennykh porokov serdtsa (zav. - kand.med.nauk V.I.Burakovskiy) Instituta serdечно-сосудистой khirurgii (dir. - prof. S.A.Kolesnikov, nauchnyy rukovoditel' - akademik A.N.Bakulev) AMN SSSR, Moskva.

GEL'SHTEYN, G.G.; MATVEYEVA, I.V.

Differential diagnosis of congenital heart defects. Sov.med.  
28 no.12:47-53 D '65. (MIRA 18:12)

1. laboratoriya funktsional'noy diagnostiki (zav. - kand.med.  
nauk G.G.Gel'shteyn) i otdeleniye vrozhdennykh porokov serdtsa  
i sosudov (zav. - dr.-tor med.nauk V.I.Barakovskiy) Instituta  
serdechno-sosudistoy khirurgii (direktor - prof. S.A.Kolesnikov;  
nauchnyy rukovoditel' - akademik A.N.Bakulev) AN SSSR, Moskva.

GEL'SHTEYN, I.M., inzh.

Composite concrete and reinforced concrete. Energ. stroi no.39:  
52-59 '64. (MIRA 17:11)

GEL'SHTEYN, I. M.

PA 50/49T43

USSR/Engineering  
Dams  
Construction

May 49

"New Types of Reinforced Concrete Hydrotechnical  
Construction," I. M. Gel'shteyn, Engr, 44 pp

"Gidrotekh Stroi" No 5

Examples of new designs used in hydroengineering  
construction with increased technical and economic  
advantage. Diagrams of spillway dam, non-over-  
flow dam, double-section tunnel, and sluiceway  
columns indicating details of drainage pipes and  
tranches, sizes and placement of pebbles, sand,  
gravel, and slab, and the water levels.

50/49T43



1. ROZENBAUM, I. S.; ZHIDENKO, P. N.; SHIL'NITSKYA, I. YA.
2. USSR (600)
4. Tractors--Repairing
7. Reconditioning cast iron liners of tractor motors by chroming, Mekh. i elek. sel'khoz., No. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

5(3)

SOV/80-32-5-48/52

AUTHOR: Gel'shteyn, R.M.

TITLE: The Production of Esters of Lactic Acid

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1173-1174 (USSR)

ABSTRACT: Esters of lactic acid can be produced by the esterification of lactic acid with alcohol [Ref 1-5]. For this purpose anhydrous alcohol and lactic acid of the concentration of 75 - 85% are necessary. The lactic acid is concentrated here by distilling an azeotropic mixture of the acid and benzene. This made possible to use of technical alcohol and technical lactic acid of 60 - 65%. A water separator was installed, so that the benzene-alcohol mixture could be returned to the reaction. The following esters were produced by this method: ethyl (with a yield of 30%), isopropyl (15%), butyl, isobutyl, amyl and isoamyl ester (50%). There are 10 references, 3 of which are Soviet, 6 German, and 1 American.

SUBMITTED: February 17, 1958

Card 1/1

S/080/62/035/009/013/014  
D287/D307

AUTHORS: Finkel'shteyn, I.I., and Gel'shteyn, R.M.

TITLE: Improved method for the preparation and purification  
of stilbene

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 9, 1962,  
2111 - 2112

TEXT: The authors investigated the effect of the starting material (benzaldehyde azine), of the reaction conditions of the decomposition process and of purification methods on the yield and properties of stilbene. Experiments proved that the latter were not affected by the properties of the benzaldehyde azine but reaction conditions, e.g. the length of the decomposition process and the reaction temperature were very important factors. The advantages and disadvantages of various methods of purification, i.e. crystallization from dichloroethane, vacuum distillation and heating with acetic acid for 1 hour, at 100°C are compared. Best results were obtained when stilbene was recrystallized from dichloroethane, in the presence of not less than 5 % of activated carbon. ✓

Card 1/2

Improved method for the ...

S/080/62/035/009/013/014  
D287/D307

ASSOCIATION: Khar'kovskiy zavod khimicheskikh reaktivov (Kharkov  
Plant for Chemical Reagents)

SUBMITTED: February 3, 1961

✓

Card 2/2

GEL'SHTEYN, R. Ye.

"Data on the Serum Therapy of Influenza," by F. G. Epshteyn, A. S. Levinson, Z. A. Semashko, A. G. Chetverikov, M. M. Vital, M. A. Belavintseva, K. G. Karatayeva, N. N. Malkova, R. Ye. Gel'shteyn, Ye. G. Korabishcher, A. A. Krums, K. I. Matveyeva

Voprosy Meditsinskoy Virusologii, Moscow, No. 2, 1949, pp. 278-287

DELSHTEIN, V., PENTOV, H., KROTKINA, N., VAPOVAYA, A. V.,

"The Develop of Malignant Tumors in Monkeys," paper presented at the  
7th Int'l Cancer Congress, London, 6-12 July 1998.

FRIDKIN, V.Ya.; GEL'SHTEYN, V.E.; ORLOV, V.N. (Moskva)

Electrocardiography in the diagnosis of lung cancer and mediastinal tumors. Klin.med. 37 no.8:106-112 Ag '59. (MIRA 12:11)

1. Iz pervoy kafedry rentgenologii i meditsinskoy radiologii (zav. - zaslushennyy deyatel' nauki prof.S.A.Reynberg) i pervoy kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof.M.S. Vovsi) Tsentral'nogo instituta usovershenstvovaniya vrachev (dir. V.P.Lebedeva) na baze Bol'nitsy im. S.P.Botkina (glavnyy vrach - prof.A.N.Shabanov).

(LUNG, neoplasms)

(MEDIASTINUM, neoplasms)

(ECMOGRAPHY)

GEL'SHTEYN, V.E. (Moskva)

Electrokymography in various diseases of the respiratory organs.  
Klin.med. no.4:66-74 '62. (MIRA 15:5)

1. Iz rentgenologicheskogo otdeleniya (zav. - A.V. Kutsili)  
Bol'nitsy imeni S.P. Botkina (glavnyy vrach Yu.G. Antonov)  
i 1-y kafedry rentgenologii i radiologii (zav. - zasluzhennyy  
deyatel' nauki prof. S.A. Reynberg) Tsentral'nogo instituta  
usovershenstvovaniya vrachev.  
(RESPIRATORY ORGANS--DISEASES) (ELECTROKYMOGRAPHY)



GEL'SHTEYN, V. E. (Moskva, A-40, Leningradskiy pr., 28, kv. 13)

Electrokymographic study of the pulmonary blood supply during  
radiotherapy for lung cancer. Vop. onk. 8 no.3:26-33 '62.  
(MIRA 15:4)

1. Iz rentgenologicheskogo otdeleniya (zav. - A. V. Kutsidi)  
bol'nitsy im. S. P. Botkina (glav. vrach - prof. A. N. Shabanov)  
i 1-y kafedry rentgenologii i radiologii (zav. - zasl. deyat.  
nauki prof. S. A. Reynberg) Tsentral'nogo instituta usover-  
shenstvovaniya vrachey.

(LUNGS—CANCER) (RADIOTHERAPY)  
(ELEKTROKYMOGRAPHY) (LUNGS—BLOOD SUPPLY)

GEL'SHTEYN, V.E.; VERETENNIKOVA, V.P.

Study of the lesser circulation in pulmonary tuberculosis by the electrokymographic method. Probl. tuberk. 41 no.4:25-31 '63. (MIRA 17:2)

1. Iz rentgenologicheskogo otdeleniya bol'nitsy imeni S.P. Botkina (glavnyy vrach Yu.G. Antonov) i kafedry rentgenologii i radiologii No.1 (zav. - zasluzhennyy detatel' nauki prof. S.A. Reynberg) Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

GEL'SHTAYN V. I., (MOSCOW)

USSR/Medicine - Cancer, Cancerogenic  
Substances

Sep/Oct 53

"Precancerous Changes in Liver, Experimentally Produced With Orthoaminoazotoluene (I)," V. I. Gel'shteyn (Moscow), Lab Oncol, Inst of Normal and Pathol Morphol, Acad Med Sci USSR

Arkhir Patol, Vol 15, No 5, pp 58-66

Application of a 1% soln of I in benzene to the interscapular area of 288 mice of the C<sub>3</sub>HA and CC<sub>57</sub> strains, for a period of one day to 3 months, produced rapid changes of a pretumorous proliferative

276T11

character involving not only the hepatic tissue, but also the reticulo-endothelial stroma and the bile ducts. These changes are of significance because they clarify the pathogenesis of the cancerous process and furnish an accurate morphological picture of precancerous changes. Benzene alone produced no pathological changes in the livers of control mice. Illustrated by photographs and charts.

GELSHTEYN, V. I. and VADOVA, A. V.

"Analysis of the Death of the **Experimental Monkey Undine**" a report prepared at Sukhumi Medico-Biological Station, AMS USSR, 1954.

So: Review of Eastern Medical Sciences, Munich, No. 2, 1956.

GEL'SHTEYN, V.I.; DYADKOVA, A.M.

Further data on oncologic characteristics of laboratory brown mice of the CC<sub>57</sub> line. Vop.onk.1 no.2:32-39 '55. (MLRA 9:1)

1. Is laboratorii eksperimental'noy onkeologii (zav. Chl.kerr. AMN SSSR prof. L.M.Shabad) Instituta onkeologii AMN SSSR (dir. Chl.kerr. AMN SSSR prof. A.I.Serebrov)

(NEOPLASMS, experimental,

oncol.characteristics of brown mice CC<sub>57</sub>)

(MICE,

brown mice CC<sub>57</sub>, oncol.characteristics)

USSR/Medicine - Oncology

FD-2266

Card 1/1 Pub 17-17/20

Author : Gel'shteyn, V. I.; Mashbits, F. D.

Title : Investigation of blastomogenic properties of certain cholestadienes

Periodical : Byul. eksp. biol. i med. 3, 66-69, Mar 1955

Abstract : Investigated the blastomogenic properties of six different cholestadienes ( $\Delta^{2,4}$ -cholestadiene,  $\Delta^{4,6}$ -cholestadiene,  $\Delta^{3,5}$ -cholestadiene,  $\Delta^{4,6}$ - $\Delta^{2,4}$ -dicholestadienyl,  $\Delta^{3,5}$ -cholestadiene -- 3-methyl- $\Delta^{3,5}$ -cholestadiene, and 3-ethyl- $\Delta^{3,5}$ -cholestadiene) by subcutaneous injection in mice and subsequent histological examination on the natural death of the mice. Table. One reference, USSR, since 1940.

Institution: Laboratory of Experimental Oncology (Head-Prof. L. M. Shabad, Corresponding Member of the Academy of Medical Sciences USSR) of the Institute of Oncology (Director-Prof. A. I. Serebrov, Corresponding Member of the Academy of Medical Sciences USSR) of the Academy of Medical Sciences USSR

Submitted : June 26, 1954 by N. N. Petrov, Member of the Academy of Medical Sciences USSR

GEL'SHTEIN, V.I.

USSR/General Problems of Pathology - Tumors.

S-4

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71405

Author : Martynova, R.P., Gel'shtein, V.I.

Inst :

Title : Morphological Characteristics of Tumors In Descendants  
of Mice Treated with a Concerogenic Substance

Orig Pub : Arkiv Patologii, 1955, 17, No 3, 65-66

Abstract : Under the influence of methylcholantrene introduced into females, which caused in them cancer of the milk gland, (MG), the descendants exhibited MG tumors in much larger number than the number of spontaneous tumors of MG in the given line. The largest number of tumors arose in the descendants of females which had the most malignant forms of tumors. The kind of tumor present in the descendants is in a large measure related with the kind found in the parent mouse, which is shown in the fact of appearance of MG cancer only in the descendants of cancerous mice, and of sarcoma in the sarcomatous mice.

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GEL'SHTEYN, V.I.

7/24  
The prolonged use of synestrol in spontaneous carcinomas of the mammary glands of monkeys. A. V. Vadorin and V. I. Gel'shtein (Med. Biol. Sta., Acad. Sci. U.S.S.R., Sukhum). *Voprosy Onkologii* 2, 301-6(1958).--The subcutaneous administration of synestrol was initiated 5 years after the neoplasm formation was detected and was continued for 2 years. It had no effect on the growth of the implantation but resulted in the development of endometrioid cysts. B. S. Levant

2



PETROV, N.N. (Leningrad, ul. Saltykova-Shchedrina, d. 41, kv. 1); KROTKINA, N.A.; BARABADZE, Ye.M.; VADOVA, A.V.; GEL'SHTEYN, V.I.; MEL'NIKOV, R.A.; POSTNIKOVA, Z.A.; SMOYLOVSKAYA, E.Ya.

Results of 18 years of work at Sukhumi on experimental carcinogenesis in monkeys. Vop.onk. 4 no.6:643-655 '58. (MIRA 12:1)

1. Iz laboratorii eksperimental'noy onkologii Sukhumskego instituta patologii i terapii (b. Pitomnik obes'yan i medbiostantsiya) (nauchnyy rukovod. - prof. N.N. Petrov).

(NEOPLASMS, experimental,  
result of 18 year work on carcinogenesis in monkeys  
(Rus))

PL. GEL'SHTEYN, V. I.

EXCERPTA MEDICA Sec 5 Vol 12/7 General Path. July 59

1772. THE ANTIGENIC COMPONENT OF MOUSE LIVER PROTEIN IN  
CANCEROGENESIS (Russian text) - Gelstein V. I. Inst. of Exp. Pathol.  
and Ther. of Cancer, Moscow - VOPR. ONKOL. 1958, 4/5 (526-533) Tables 4  
The antigenic components of mouse liver in the process of cancerogenesis provoked  
by *ortho*aminoazotoluene (OAAT) were studied by means of an anaphylactic reaction  
with desensitization. In the liver of mice of the C3HA line administered OAAT, the

1772

presence of an antigen differing from the normal liver tissue antigen was confirmed. In the early stages of cancerogenesis (2 months from the beginning of the experiment) this antigen concentrates in the nuclear and mitochondrial liver fractions. In hepatomas it is equally distributed in all intracellular fractions. According to the literature, an antigen possessing the OAAT specificity as well as an antigen similar to that of the hepatoma is detected in the precancerous liver. The author did not succeed in adsorbing specific antigen out of the precancerous liver or out of an induced or transplanted hepatoma onto rabbit or guinea-pig erythrocytes. (V. 16)

GEL'SHTEYN, V.I.

Simplified antigenic structure of liver proteins in mice in experimental carcinogenesis [with summary in English]. Biul. eksp.biol. i med. 46 no.9:96-100 S '58 (MIRA 11:11)

1. Iz laboratorii immunologii (zav. - kand. biologicheskikh nauk A.V. Vadova, nauchnyy rukovoditel' deystvitel'nyy chlen AMN SSSR L.A. Zilber) Instituta eksperimental'noy patologii i terapii raka (dir. chlen-korrespondent AMN SSSR N.N. Blokhin) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR L.A. Zil'berom.

(NEOPLASMS, immunology,

antigenic structure of liver proteins in exper. carcinogenesis (Rus))

(LIVER NEOPLASMS, immunol.

same (Rus))

GELSHTEYN, V. I. (USSR)

"Morphological and immunologicla liver changes in the course of experimental hepatocarcinogenesis."

report submitted for the European Conference on Tumor Biology (VICC),  
Warsaw, Poland  
22-27 May 1961

Gelshteyn, V. I.-Inst. of Experimental and Clinical Oncology, A.M.S., Meshchanskaya  
61/2, Moskva

GEL'SHTEYN, V.I.; STEPINA, V.N.

Using the method of immunological tolerance for inhibiting  
antibody formation to tissue antigens. Vop. onk. 6 no. 9:9-15  
S '60. (MIRA 14:1)  
(TUMORS)

ZIL'BER, Lev Aleksandrovich, prof.; ABELEV, Garri Izrailevich;  
GEL'SHTEYN, V.I., red.; ROMANOVA, Z.A., tekhn. red.

[Virology and immunology of cancer] Virusologiya i immunitet  
raka. Moskva, Medgiz, 1962. 457 p. (MIRA 15:8)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for  
Zil'ber)

(CANCER)

GEL'SHTEYN, V. I. (Moskva, D-315, 1-y Baltiyskiy per., 3/25, kv. 1)

Some data on the transplantation of tumors of the liver in mice.  
Vop. onk. 8 no.7:25-28 '62. (MIRA 15:7)

1. Iz laboratorii khimicheskikh kantserogennykh veshchestv  
(zav. - d-r med. nauk Yu. M. Vasil'yev) otdela kantserogennykh  
agentov (zav. - deystv. chl. AMN SSSR, prof. L. M. Shabad)  
Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR  
(dir. - deystv. chl. AMN SSSR, prof. N. N. Blokhin)

(LIVER-TUMORS)  
(TRANSPLANTATION OF ORGANS, TISSUES, ETC.)



VASIL'YEV, Yu.M.; GEL'SHTEYN, V.I.

Receprocal relations of precancerous changes and reactive proliferation. Vest.AMN SSSR 17 no.6:7-16 '62. (MIRA 15:8)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.  
(CARCINOGENESIS)

SHABAD, L.M., prof., glav. red.; VERTEL', Ye.M., prof., zam. glav. red.; KONOPLEV, V.P., zam. glav. red.; GEL'SHTEYN, V.I., red.; KRICHEVSKAYA, A.A., red.; SHAPOT, V.S., red.; VUL'FSON, K.G., red.; GONCHAROVA, T.I., tekhn. red.

[Transactions of the Eighth International Cancer Research Congress in six volumes] Trudy vos'mogo Mezhdunarodnogo protivorakovogo kongressa v shesti tomakh. Moskva, Medgiz, 1963. Vol.2. [Problems in the biochemistry of cancer and cancerogenesis] Voprosy biokhimii raka i kantserogeneza. 586 p. Vol.4. [Problems in the biology of the cancer cell and radiobiology, radiotherapy and precancer] Voprosy biologii opukholevoi kletki i radiobiologii, luchevoi terapii i pred-raka. 410 p. (MIRA 17:1)

1. Mezhdunarodnyy protivorakovyy kongress, 8th. Moscow.
2. Deystvitel'nyy chlen AMN SSSR (for Shabad).

\*

GEL'SHTEYN, V.I.

Characteristics of liver regeneration in mice during the process  
of experimental carcinogenesis. Vopr. onk. 9 no.4:61-68 '63.  
(MIRA 17:9)

1. Iz laboratorii khimicheskikh kantserogennykh veshchestv  
(zav. - doktor med. nauk Yu. M.Vasil'yev) Otdela kantserogennykh  
agentov (zav. - deystvitel'nyy chlen AMN SSSR prof. L.M.Shabad)  
Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR  
(dir. - deystvitel'nyy chlen AMN SSSR prof. N.N.Blokhin). Adres avtora:  
Moskva, I-110, ul. Shchepkina, 61/2, korp. 9 Institut eksperimental'noy  
klinicheskoy onkologii.

GEL'SHTEYN, V.I.

Mechanism of the action of chemical cancerogenic substances.  
Vest. AMN SSSR 18 no.3:15-28 '63. (MIRA 17:10)

GEL'SHTEYN, V.I.

Effect of o-aminoazotoluene and partial hepatectomy on transplanted  
hepatomas in mice. Vop. onk. 10 no.7:65-70 '64. (MIRA 18:4)

1. Iz laboratorii po izucheniyu mekhanizmov kantserogeneza (zav. -  
doktor med. nauk Yu. M. Vasil'yev) i otdela po izucheniyu kantserogen-  
nykh agentov (zav. - deystvitel'nyy chlen AMN SSSR prof. L.M.Shabad)  
Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. -  
deystvitel'nyy chlen AMN SSSR prof. N.N.Blokhin). Adres avtora: Moskva,  
I-110, ul. Shchepkina, 61/2, korpus 9, Institut eksperimental'noy i  
klinicheskoy onkologii AMN SSSR.

GEL'SHTEYN, V.I.; YAGORSKAYA, T.A.

Effect of ortoaminoazotoluene on explanted normal mouse liver and on transplanted hepatomas. Vop. onk. 10 no.9:58-65 '64.

(MIRA 18:4)

1. Iz laboratorii mekhanizmov kantserogeneza (zav. - doktor med. nauk Yu.M.Vasil'yev) otdela po izucheniye kantserogennykh agentov (zav. - deystvitel'nyy chlen AMN SSSR prof. L.M.Shabad) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N.Blokhin). Adres avtorov: Moskva, I-110, ul. Shchepkina, 61/2, korpus 9, Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

GEL'SHTEYN, V.I.; YAGORSKAYA, T.A.

Study of a simplified antigen structure in mice liver during early periods of cancerogenesis with the use of analytical immuno-electrophoresis. Biul. eksp. biol. i med. 57 no. 2:90-93 F '64.  
(MIRA 17:9)

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VASIL'YEV, Yu. M.; GEL'FAND, I. M.; GEL'SHTEYN, V. I.; MALENKOV, A. G.

Characteristics of cellular complexes of the ascitic mouse hepatoma 22. Dokl. AN SSSR 156 no. 1:168-170 My '64. (MIRA 17:5)

1. Institut eksperimental'moy i klinicheskoy onkologii AMN SSSR.
2. Chlen-korrespondent AN SSSR (for Gel'fand).



VASIL'YEV, Yu.M.; GEL'SHTEYN, V.I.

Cell mechanisms of chemical carcinogenesis. 'Sitologiya 7  
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1. Laboratoriya mekhanizmov kantserogeneza otdela po izucheniya  
kantserogennykh agentov Instituta eksperimental'noy i klinicheskoy  
onkologii AMN SSSR, Moskva.

BARULINA, N.A.; BOGDANOVA, Ye.S.; VASIL'YEV, Yu.M.; GEL'SHTEYN, V.I.;  
KISELEVA, h.S.

Effect of RNA preparations on the growth of transplanted hepatomas  
in vivo and on protein synthesis in tumor cells in vitro. Biokhimiya  
30 no. 3:505-513 My-Je '65 (MIRA 19:1)

1. Institut biokhimii imeni Bakha AN SSSR i Institut eksperimental'noy i klinicheskoy onkologii: ~~AMN SSSR~~, Moskva.

FRIDKIN, V.Ya.; ZHISLINA, M.M.; GEL'SHTEYN, V.Yo.

Acute pulmonary edema; clinical roentgenological comparisons. Khim.  
med. 38 no.5:72-80 My '60. (MIRA 13:12)  
(PULMONARY EDEMA)

ORLOV, Viktor Nikolayevich; GEL'FERTMAN, V.Ye., red.

[Electrocardiography in the clinic for internal diseases.]  
Elektrokardiografiia v klinike vnutrennikh boleznei. Moskva, Meditsina, 1964. 214 p. (MED 18:1)

CHITIN, Ye. Ya.

"Perforated Ulcer of the Stomach and Duodendum." Thesis for degree of Cand. Medical Sci. Sub 1: Apr 49, First Moscow Order of Lenin Medical Inst.

Summary #2, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

GEL'TISHCHEV, Anatoliy Alekseyevich; TYLKIN, M.N., red.; PULIN, L.I.,  
tekhn.red.

[Less cost per production unit] Men'she satrat na edinitu  
produksii. Tula, Tul'skoe knishnoe izd-vo, 1958. 39 p.  
(MIRA 13:3)

(Tula Province--Costs, Industrial)

GEL'TISHCHEVA, Ye. A.

BELOSTOTSKAYA, Ye. M., kand.med.nauk; SHAROVA, M. A., kand.med.nauk;  
GEL'TISHCHEVA, Ye. A., nauchnyy sotrudnik.

Hygienic evaluation of practical studies at a rural school  
experimental plot. Gig. i san. 22 no. 7:28-32 J1 '57. (MIRA 10:10)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii  
i gigiyeny imeni B. R. Ministerstva zdavookhraneniya RSFSR.  
(EDUCATION,

hyg. aspects of practical courses at rural school (Rus))

GEL'TISHCHEVA, YE. A., Cand Med Sci -- (diss) "Hygienic appraisal of  
the noise factor in school." Mos, 1958. 11 pp (Min of Health USSR,  
Central Inst for Advanced Training of Physicians), 200 copies (KL, 17-58,  
111)

- 20 -



GEL'TISHCHEVA, Ye.A., nauchnyy sotrudnik

Hygienic evaluation of the noise factor in school [with summary  
in English]. Gig. i san. 23 no.4:21-28 Ap '58. (MIRA 11:6)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i  
gigiyeny imeni V.P.Brismana Ministerstva zdavookhraneniya RSFSR.

(NOISE, eff.

in schools, eff. on hearing acuity in students (Rus))

(HEARING

acuity, eff. on school noises in students (Rus))

(SCHOOLS,

eff. of noise on hearing acuity in students (Rus))

GEL'TMAN, A. E.

63/49125

USSR/Engineering  
Turbines  
Thermodynamics

Nov/Dec 48

"Thermodynamic Principles of a Combined Steam-Gas Cycle With Constant Combustion Pressure," A. E. Gel'tman, Engr, 5 1/2 pp  
Loshkin, Dr Tech Sci, A. E. Gel'tman, Engr, 5 1/2 pp

"Kotloturbostroy" No 6

Examines thermodynamic basis of this cycle and its effectiveness. Presents theoretical characteristics and shows action in heat chart and thermal schematic diagram. Gas stage is added onto the steam-water cycle as is the mercury stage in a mercury-water

63/49125

USSR/Engineering (Contd)

Nov/Dec 48

cycle. Under present conditions the steam-gas cycle performs more economically than steam plants or gas turbines. Additional advantages: smaller dimensions, small metallic enclosure for surface heating, and a smaller no-load coefficient.

GELTMAN, A.E.

1637. USE OF STEAM-GAS CYCLES IN COMBINED DISTRICT HEATING AND POWER STATIONS. Geltman, A.E. and Levin, G.B. (Vestn. Inzh. (Mach. Ind. Dull., Moscow), Jan 1954, vol. 34, 19-23; abstracted in Engng. Dig., July 1954, vol. 15, 270-273). The author explains how, by the use of a boiler roughly of the Velox type, in which the combustion chamber is highly supercharged by means of exhaust gas turbine-driven air and gas superchargers, considerable economies can be obtained in combined district-heating and power stations if the exhaust from the gas turbine is also used for the heating of water. (L.)

GEL'TMAN, A.E., kandidat tekhnicheskikh nauk; KANAYEV, A.A., kandidat  
tekhnicheskikh nauk; TSUKERMAN, R.V., kandidat tekhnicheskikh nauk.

Problems in the development of Soviet heat power engineering.  
Energomashinostroenie no.3:1-6 D '55. (MLRA 9:5)  
(Power engineering)

GELTMAN, A. V.

1306. PROGRESS OF TECHNICAL PROGRESS IN BOILER AND TURBINE  
CONSTRUCTION by Gel'tman, A. V., Kuznetsov, A. A., and Tikhonov, R. V.  
(Energomashinostroyeniye (Vuz-Mech., Leningrad), Doc. 1956, 1-5). Plans for  
the 1956-1960 period are discussed. Boiler evaporating capacities of 850  
tons/h, pressures of 310 atm and temperatures of 660°C are envisaged. (L).

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1(4E26)

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637

**AUTHOR:** Geltman, A.E., Candidate of Technical Sciences and  
Tsukerman, R.V., Candidate of Technical Sciences (Central  
Boiler Turbine Institute).

**TITLE:** On the design of new thermal power equipment. (K proyektir-  
ovaniyu novogo teploenergooborudovaniya.)

**PERIODICAL:** "Teploenergetika" (Thermal Power), 1957, Vol. 4, No. 6,  
pp. 3 - 6 (U.S.S.R.)

**ABSTRACT:** A recent article by M.A. Styrikovich (Teploenergetika 1957  
No. 5, pp. 3 - 6) considered the future changes in the fuel  
balance of the Soviet Union and the tendencies in power  
engineering arising therefrom. The present article gives  
further considerations about the selection of future types of  
power equipment based on work carried out in the Central  
Boiler and Turbine Institute (see 'Energomashinostroenie' 1955  
No. 3 and No. 12, 1956). Until recently, it was of prime  
importance in Soviet power engineering to achieve the maximum  
standardisation of equipment. This ensured rapid growth of  
output but led to some loss of economy and occasional oper-  
ational inadequacies. At the present time in designing new  
types of power equipment serious attention is devoted to  
reducing the specific heat consumption which is mainly  
achieved by increasing the initial steam conditions making the  
thermal circuit more complicated and by the use of deeper  
vacuum. This naturally increases the cost and complication

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On the design of new thermal power equipment. (Cont.)  
of the equipment.

Present plans for very extensive development of power engineering, including a number of new industrial districts in Siberia, is creating a greater variety of operating conditions for power equipment. There will be a great variety of fuel supply conditions and load curves on power stations in different power systems and also differences in water supply conditions. Up till now the actual conditions of operation of equipment in future power systems in different districts of the country have not been sufficiently studied.

It is now possible to increase considerably the number of types and sizes of boiler and turbine equipment and standardisation will be directed not so much to complete sets as to particular items and assemblies of equipment.

Consideration is then given to conditions of operation of thermal power stations in future systems. In the European part of the Soviet Union, fuel costs are relatively high. Fuel costs are much less in Siberia where the Kuznetsk, Karaganda and Kansk coals, which together make up 22% of all power fuel, cost together with transport 70 to 80 Roubles per ton of "conventional" (7 000 kcal) fuel as against 100 to 150 in the European part of the Soviet Union. In addition, in a number of Eastern districts the use of opencast working is extending, giving fuel costs of 20 to 30 Roubles per ton and less at the source. In future the proportion of expensive fuel will diminish, and that of cheap coals will increase.

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The shape of the load curve is determined by the type of consumer. Districts having industries that consume a great deal of power have a smooth curve, for instance, in the Urals and South and a number of Eastern regions. Although there will be some increase in communal and domestic power consumptions of these systems in 1965 to 1970 the daily load factor will be about 0.9 and the number of hours of utilisation of maximum load about 7 000 hours per year. In regions with relatively expensive fuel where it is not advantageous to develop industry consuming large amounts of electric power the communal and domestic loads are relatively more important. The power system of the Centre and North West are typical in this respect where for the period 1965 - 1970 the daily load factor will be of the order of 0.80 to 0.85 and the maximum load will be used for about 5 700 hours per year.

The presence of other types of power station in a system affects the extent to which thermal stations meet the total load curve. Hydro stations affect the amount of reserve plant required in thermal stations because their installed power is based on conditions in dry years. During periods of high water power stations should cover the base load and thermal stations the peak. During the winter, when little water is available, water power stations should carry the peak load and thermal

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On the design of new thermal power equipment. (Cont.)

stations the base load. During a large part of the year, the load on heat and electric power stations is governed by heat requirements. Therefore, in winter, variations in electrical load should mainly be taken up by condensing stations.

In the future an ever increasing number of condensing power stations will be built with super-high and super-critical steam conditions. Because of the high capital investment in such stations and also because of the sensitivity of austenitic steels to temperature changes these power stations should carry the base load. Atomic power stations should also have a smooth load curve. Therefore, the conditions of operation of other thermal power stations will deteriorate.

The varied climatic conditions in the Soviet Union and special features of power station sites will involve a wide range of cooling water temperature. Mean annual water cooling temperatures for different regions of the Soviet Union with different systems of water supply are tabulated. They range from 7.1 °C for run of the river schemes in Sverdlovsk to 22.5 °C for cooling towers in Baku. Consequently the mean annual pressure in condensers will cover the wide range of 0.025 to 0.07 atm.

The selection of parameters and characteristics of turbine and boiler sets for large condensing stations is then considered. At the present time it is planned to manufacture new power equipment for two ranges of steam conditions: up to 130 atm. at 565 °C using mainly pearlitic steels and 220 to 300 atm. at

On the design of new thermal power equipment. (Cont.)<sup>637</sup>

600 to 650 °C with comparatively extensive use of austenitic steels. The stations with the lower conditions will be comparatively cheap and flexible. Those with higher conditions are more efficient, more expensive and more sensitive to changes in working conditions. The need in a number of regions for thermal stations to work on a varying load will have a great influence on the selection of steam conditions and energy characteristics of turbines and boilers. In the Centre and North West, where loads will be variable, the use of sub-critical and super-critical steam pressure is not specially advantageous. If the base load is allotted to these 'critical pressure' stations the operating conditions of the other stations with high steam conditions is impaired. It follows that even in regions with expensive fuel the scope for base load power stations which are not adaptable to a variable load curve may be limited. As has already been shown, in regions with cheap fuel it is above all necessary to reduce initial outlay.

It follows that a most important and immediate task is further perfection of power equipment based on pearlitic steels using the highest possible steam conditions that these steels permit. The power of units with these steam conditions should be of the order of 200 to 300 MW. It follows that where

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austenitic steels are used in power stations there must be a considerable increase in efficiency in order to justify the initial outlay and the enforced limitations on working conditions. The question of the rational scope and scale of application of power stations with steam conditions that necessitate extensive use of austenitic steels requires detailed study.

In view of the wide range of cooling water conditions the use of a single standard vacuum leads to considerable losses. Approximate technical and economic calculations show that increase in the dimensions of the low pressure section of turbines, with reduction of the specific steam load of the annular area of the last stage from 33 to 22 kg/m<sup>2</sup>-sec, can be justified (with an average fuel cost of the order of 100 Roubles per ton of "conventional" fuel) only with cooling water temperatures of the order of 10 to 15 °C and less.

Where the average temperature is higher such a development of the low pressure section, which also necessitates corresponding increase in condensing facilities, is not economic. It is obvious that the variety of conditions of water and fuel supply that exist cannot be taken care of economically by a single series of turbines with standard vacuum for all conditions. It is also inadvisable to design for one constant temperature of gases leaving the furnace whatever the fuel cost. The present standard temperature of 120 °C, recommended when fuel is dry, is apparently near to the optimum value for

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the mean cost of fuel. However, this temperature is affected by the cost of the fuel and if, for example, the cost of a ton of conventional fuel is 120 Roubles the optimum temperature difference on the hot end of the air heater is about 30 to 40 °C whilst if the cost of a ton of conventional fuel is 60 Roubles, this temperature difference should increase to 60 to 80 °C, i.e. the temperature of the gases leaving the furnace should be raised by 30 to 40 °C. Therefore, in Siberia where fuel is cheap it may be advisable appreciably to raise the temperature of the outgoing gases to economise in metal in the end heating surfaces and to reduce the house service power consumption.

It will be necessary to alter the present practice in designing boilers and turbines of making the main design condition, that corresponds to guaranteed efficiency figures, coincide with the rated power. In a number of future power stations rated output will be used for only 5 700 hours per year. With allowance for spinning reserve in the system and periodic load reduction, the long term load on sets in such power systems may be much less than the rated value. The economic operating conditions of turbo sets intended for such conditions of operation should therefore coincide with the value of mean load that is used for the longest time.

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On the design of new thermal power equipment. (Cont.)<sup>637</sup>

Similarly, boiler equipment should be designed so that the maximum efficiency coincides with economic operating conditions of the turbine.

The main conclusion from all this is that in the new stage of development of thermal engineering the necessary variety of requirements cannot be satisfied by single standard identical types of power equipment. It will be necessary to design the equipment in respect of steam conditions and main characteristics to suit the particular conditions of operation that are encountered.

No figures, 2 literature references (Russian).

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*1. Tsentrallyy Kottloturbinnyy Institut  
(Electric power stations)*

GELITMAN, A.E., kand.tekhn.nauk; KORNEYEV, M.I., kand.tekhn.nauk;  
SHEBALOV, V.K., inzhener.

Using gas from underground gasification in steam-gas equipment.  
Elek.sta. 28 no.9:35-39 S '57. (MIRA 10:11)  
(Steam power plants)

25(2)

PHASE I BOOK EXPLOITATION

SOV/2179

Gel'tman, Aleksey Eduardovich, Candidate of Technical Sciences,  
Andrey Andreyevich Kanayev, Candidate of Technical Sciences, and  
Rudol'f Vul'fovich Tsukerman, Candidate of Technical Sciences

Teploenergomashinostroyeniye v shestoy pyatiletke (Heat Power Machinery Manufacture in the Sixth Five Year Plan) Leningrad, 1958.  
49 p. Errata slip inserted.. 9,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, Leningradskoye Otdeleniye.

Scientific Ed.: V.I. Bulanin, Candidate of Technical Sciences; Ed. of Publishing House: D.M. Vladimirskiy; Tech. Ed.: A.M. Gurdzhiyeva.

PURPOSE: This pamphlet is intended for the general reader.

COVERAGE: The authors discuss the important role of the machine-

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Heat Power Machinery (Cont.)

building industry in providing power stations with power-generating machinery, in order to fulfill the Sixth Five Year Plan in accordance with directives of the Twentieth Congress of the Communist Party of the Soviet Union. They also comment, in general terms, on the capacity of Soviet electric power stations, power-generating systems, and describe steam turbines, boiler installations, auxiliary equipment, and equipment for small electric power stations. No personalities are mentioned. There are no references.

AVAILABLE: Library of Congress (TJ 255.G4)

TABLE OF CONTENTS: None given. The book is divided as follows:

Capacities of Power-Generating Systems, Electric Power Stations, and Power Plants	5
Steam Turbines	9
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Furnaces	31

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Heat Power Machinery (Cont.)

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Auxiliary Equipment

40

Equipment for Low-Capacity Electric Power Stations and Gas-Turbine  
Plants

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9-21-59

GEL'TMAN, A.E., kand. tekhn. nauk,

Selecting parameters and characteristics of power equipment  
for regional condensing electric power plants. *Energomashinoostroenie*  
4 no.10:5-8 0 '58. (MIRA 11:11)  
(Electric power plants--Equipment and supplies)

GEL'TMAN, A.M., kand. tekhn. nauk; TSUKERMAN, R.V., kand. tekhn. nauk.

"Statistics in industrial power engineering" by A.A. Rodshtein.  
Reviewed by A.M. Gel'tman, TSukerman. Teploenergetika 5 no.4:95-  
96 Ap '58. (MIRA 11:5)

(Power engineering)  
(Rodshtein, A.A.)

GEL'TMAN, A. B. TsKTI

"Characteristics of the Thermal Circuits of Block Assemblies Intended for Super-critical Steam Parameters."

The Commission for High-parameter Steam of the Energeticheskiy institut (Power Institute) imeni G. M. Krzhizhanovskogo AN SSSR held a conference on May 16, 1958 devoted to new types of equipment for block-assembled power stations, operating at super-critical steam parameters. This paper was read at this conference.

Izv. Akad Nauk SSSR, Otdel Tekh nauk, 1958, No. 7, p. 152

GEL'TMAN, A. E.                      (Cand. Tech. Sci.)

"The Selection of Parameters and Characteristics for Power Equipment in Regional Condensing Power Stations,"

report presented at a Conf. on New Types of Equipment for Unit-type Power Stations employing Super-critical Steam Conditions, Power Inst, Acad Sci. USSR, Moscow. 14-16 May 1958.

(brief account of report appears in Teploenergetika, 1958, No. 9, 92-95)

Cent. Boiler Turbine Inst,

SOV/96-59-3-1/21

AUTHOR: Gel'tman, A.E., Candidate of Technical Sciences

TITLE: Some Problems of the Thermal Circuits of Boiler-Turbine Units for Super-Critical Steam Conditions (Nekotoryye voprosy teplovykh skhem blokov na sverkhvysokiye parametry para)

PERIODICAL: Teploenergetika, 1959, Nr 3, pp 3-8 (USSR)

ABSTRACT: This article is based on a report to a conference called by the High-Pressure Steam Commission of the Power Institute, Academy of Sciences USSR, on new types of equipment for unit-type power stations with super-critical steam conditions. The best way of selecting feed-water temperature is still undecided and the Central Boiler-Turbine Institute has recently been making calculations on a number of variants using a boiler-turbine unit SKK-300 (300 MW,  $p = 300$  atm,  $t = 650^{\circ}\text{C}$  with double reheat to  $565^{\circ}\text{C}$ ). The operating conditions are stated, including the type of fuel. To determine the effect of higher outlet gas temperatures in increasing the feed-water temperature, the following two cases were considered: (a) the outlet gas temperature is maintained constant; (b) the outlet gas temperature is raised as

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the feed-water temperature is raised. Curves of fuel consumption as a function of feed-water temperature are given in Fig.1 which show that fuel economy is appreciably reduced in case (b). Curves showing the influence of feed-water temperature on the economy of operation of the set are given in Fig.2. The formula used in cost evaluation is given. The factors that influence the choice of optimum outlet gas temperature are stated. Where fuel is cheap, arrangements providing a variable outlet gas temperature are more economical than those with constant outlet gas temperature over the entire range of feed-water temperature considered. The factors that govern the selection of feed-water temperature are discussed and the optima for a number of particular conditions are noted in Table 1. Particular mention is made of the influence of the cost of superheater tubes. Where coal costs are relatively high, the best feed-water temperature is 270-280°C; where fuel is cheap, the best temperature may be less than 240°C. The turbine drive

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for the feed pump affects the efficiency of the thermal circuit and is next considered. The reasons why turbine drive of feed pumps is more economical than electric drive are analysed noting that the method of connecting the turbine influences the efficiency of reheat. The influence of differences between its internal efficiency and that of the main turbines is discussed. It is stated that in this respect it does not matter whether the pump-drive turbine is connected in parallel with the high-pressure or the medium-pressure cylinder of the main turbine. Overall values of fuel economy obtained with various methods of supplying the pump-drive turbine are given in Table 2 which shows that the most economic method is that in which the steam supply is bled off before reheat and the exhaust steam is used for regeneration. However, because other considerations arise, such as the relative complication of the different circuits and other practical matters, it is concluded that for newly-designed installations with super-critical steam conditions the most promising method is to supply the

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pump-drive turbine with steam after reheat and to discharge its exhaust into the main turbine. The selection of optimum vacuum conditions is then considered. The method of evaluating the mean effective cooling-water temperature is first discussed. In deciding on the appropriate vacuum, a number of associated factors must be analysed including the conditions of water and fuel supply, the design of the low-pressure cylinder and of the condensing equipment. To show how the choice of vacuum affects the design of the low-pressure cylinder and condenser equipment, calculations were made in respect of turbine type PVK-200. They show that where fuel is expensive it is advisable to increase the exhaust section specified in the standard design. Where fuel is cheap, and particularly when water-supply conditions are difficult,

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the standard design is suitable. Variations in  
conditions in different parts of the country are  
considered. There are 2 figures, 2 table and 3 Soviet  
references.

ASSOCIATION: Tsentral'nyy Kotloturbinnyy Institut (Central  
Boiler-Turbine Institute)

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GEL'TMAN, A.E., kand. tekhn. nauk; TSUKERMAN, P.V., kand. tekhn. nauk;  
SHLYAKHOVA, G.V., kand. tekhn. nauk; BUDNYATSKIY, D.M., inzh.

Selecting a rational vacuum for high-capacity condensation  
turbines. Elek. sta. 30 no.3:40-45 Mr '59. (MIRA 12:5)  
(Steam turbines)

GEL'TMAN, A. E., kand.tekhn.nauk; BUDNYATSKIY, D.M., inzh.

Selecting the feed pump drive of unit for supercritical steam pressures. *Energomashinostroenie* 6 no.6:9-13 Je '60.  
(MIRA 13:8)

(Electric driving)      (Steam turbines)